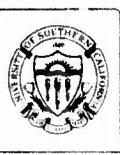


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May 1976

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# XED User's Manual

## Beginning Instruction



INFORMATION SCIENCES INSTITUTE

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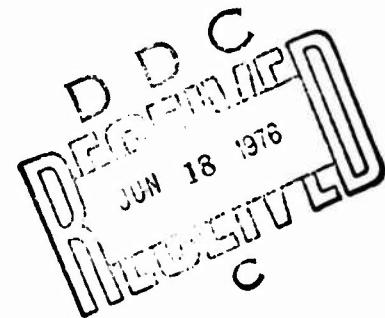
ARPA ORDER NO. 233

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## Beginning Instruction

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## FOREWORD

This manual is an introduction to the use of the editing program XED on the TENEX computer system\*. It is written primarily for the first time user.

This manual describes the general operation of XED and a basic set of commands that are needed to be able to do productive work. A second manual, *XED User's Manual: Advanced Instruction*, describes a set of more sophisticated commands that make XED more useful and allow users to tailor the program's performance to individual needs.

Both documents assume that the reader is familiar with the basic capabilities of TENEX and understands how to use it. In particular the user should understand TENEX directories, file conventions, command structure, command editing, and file name recognition. This material is covered in the *TENEX Executive Manual*, Bolt, Beranek and Newman, Inc.

In addition, reference is made to a system program generally available on TENEX called SNDMSG. SNDMSG allows the user to produce messages to be delivered to other users with directories on the same TENEX or users with directories on other computers connected to the ARPANET. The reader is referred to the *TENEX Users' Guide*, Bolt, Beranek and Newman, Inc. for a description of this program.

---

\*When using XED as described here, you must use a version of XED that numbers 3.01 or higher.

## ACKNOWLEDGMENTS

The XED text editing program was written by Donald Oestreicher and Ron Tugender, both of ISI. At the time of this writing it is being maintained by Ron Tugender. This beginner's instruction document was produced through the cooperative effort of many people at ISI, including the authors of the program, Katie Patterson, Nancy Bryan, Nancy Travis, Jeff Rothenberg, and Robert Stotz. Suggestions and improvements were made by Tom Ellis, Steve Crocker, Chloe Holg, and Marty Yonke, all of ISI.

## INTRODUCTION

Before learning specific details of the operation of XED it is useful to understand some of its basic principles and terminology.

XED, like other text editors, is basically designed to let you bring in a file of text, add to or modify its contents and then write it back out as a new file. You may create a new text file by omitting the first step. The text on which XED operates is called the "text buffer." It may contain upper and lower case letters, numbers, and whatever control characters and printing symbols are provided on the terminal. XED treats the text buffer contents as a sequence of "lines" of text, where each line has a "Carriage Return" (or New Line) at its end. Inside XED all editing is done on a single line at a time even though the user can tell XED to do an operation on a number of lines. The line that XED has last operated on is known as the "Current Line." XED automatically assigns a sequential "line number" to each line of text in the text buffer. To show you the line number assignment that it has made, XED prints the line number at the left hand margin of each text line that is typed out on the terminal. You can direct XED to set its current line to any text line in the buffer and in that way edit whatever portion of the text desired.

There are two modes of operation in XED that are important to the initial user. At any time you are either in "Command" mode or "Text Entry" mode. In Command mode, your typewritten input tells XED what operations to perform and how to do them (such as type out on the terminal 3 lines of text starting at line 16). In Text Entry mode your typewritten input is placed directly into the text buffer and is not interpreted by XED, as it is in Command mode. It is in this mode that you will create most of your text. The section of this manual titled "Text Entry" describes the operation of XED in Text Entry mode. Most of the rest of the manual describes the operation of XED while in Command mode.

In Command mode you tell XED what you want it to do by typing in "commands." The commands are generally shorthand notations (usually single letters) that relate to the operation that is performed. For example "r" is the command for the "read a file" operation and a number by itself is treated as a command to set the "current line" to that number. (These will be described in more detail later.) Commands can be typed in upper or lower case letters. In this document lower case letters are used in the examples. After you type the letter for a command, XED will type back to you the fully expanded command name.

Some commands accept additional information before they execute. For example, the command "t" (type out on terminal) allows you to say how many lines you want typed (t9 will type out 9 lines of text beginning at the current line). To indicate to XED the completion of such a command, you must hit Carriage Return. If the command does not require additional information, it will execute immediately.

### Control Characters\*

The following control characters are available anytime you are running XED:

- $\text{f } C$**  stops XED and goes immediately to the TENEX Executive. You may return from TENEX EXEC to XED in the state you left it with the TENEX CONTINUE command. If, however, you enlist another program while in the TENEX EXEC (such as MSG, SNDMSG), CONTINUE will not return you to XED and you will lose your text buffer. You must then start up again fresh (i.e., type **x ed**).
- $\text{f } T$**  prints the load average of the system and can be used to check that the computer is operating.
- $\text{f } Q$**  aborts the XED command you are entering or executing.

---

#### \* Conventions

Several notation conventions have been used in this document to make it easier to follow. In the examples, that which the user types is shown in bold face type, while output from the system is in standard type. Although generally shown as lower case letters, commands may be typed in either case. Control characters are indicated with the **f** symbol. Thus **f t** means hold down the Control Key and strike the letter **t**. This may also be referred to as Control T.

The following keys on the keyboard are sometimes abbreviated as shown:

Carriage Return	= <b>&lt;CR&gt;</b>
Line Feed	= <b>&lt;LF&gt;</b>
Escape (or Altmode)	= <b>&lt;ESC&gt;</b>
Delete	= <b>&lt;DEL&gt;</b>

## HOW TO GET STARTED

To enter XED from the TENEX EXEC, type **xed** followed by a carriage return. If this is the first time you are using XED, the program will ask you what kind of terminal you are using. You reply with one of the following single letters:

<b>b</b>	Beehive
<b>h</b>	HP 2640A
<b>v</b>	VT06
<b>z</b>	Hazeltine 2000
<b>x</b>	Textronix 4023
<b>t</b>	Teletype (or equivalent)
<b>s</b>	Super Bee

XED responds by typing the name of the terminal type you have specified. A colon will appear at the left margin which is the prompt for the Command mode. It indicates the system is waiting for command input.

Example:

```
xed
XED currently assumes your terminal is a Teletype
Enter the code for your terminal if different (type ? for list
of possibilities, use Teletype if you don't find yours): h HP 2640A
[XED has set up initial modes for you]
[Type ? for help]
XED Version 3.01 (20-APR-76)
:
```

At this point XED will create a new file in your TENEX directory called \$XED-MODE-FILES. You need not concern yourself with this file. When you enter XED again, it will read that file to establish your terminal type. If you plan to enter XED from a different kind of terminal, you should first delete all copies of \$XED-MODE-FILES. The XED manual for advanced users describes how mode file settings activate more advanced commands and features.

If you type " (double quote) XED will begin its mode dialogue. This dialogue is the means available to you to change your mode file or inode settings. If you accidentally type " you may abort the command by typing **!Q**.

**HELP**

XED contains a number of useful ways to get help. Typing a question mark (?) causes XED to type out an alphabetical listing of commands available in XED with a one-word descriptor. You will note that this manual does not describe all of these commands. (See the XED Advanced Users Manual for more information.) Typing **h** (help) followed by a command letter will produce a more detailed explanation of that command operation. If you type **h** followed by a Carriage Return, XED will request a file name from you and will create a brief reference manual in that file.

**Example:**

```
:?
[Reading HELP file...]
? outputs this message.
H HELP
The command letter which follows the H will be explained.
H<CR> generates an editor manual.
H<space> describes the interrupt characters.
The Legal Command Letters are:
```

TA,TH,DEL	Delete char	TW	Delete word	TX	Delete line	TR	Re-type line
<b>TQ</b> Abort command <b>TV,TT,T\</b> are all escape characters							
A(ppend)	B(ackup)	C(hange)	D(elete)				
E(xit)	F(ind)	Group)	H(elp)				
I(insert)	J(am)	K(ill)	L(ist)				
Modeset)	N(otemodes)	O(utput)	P(rint)				
Q(uit)	R(ead)	S(earch)	T(ype)				
V(iew)	W(rite)	X(change)					
<b>S</b> Goto End	- Current Line	- Move Back	+ Move Forward				
, Context	↑ Print Prior	/ Print Current	LF Print Next				
← Format	; Comment	© Call EXEC	" Mode dialogue				
Z Call SNDMSG	Run program						

## TEXT ENTRY

There are two commands for entering Text Entry mode: **a** (append) or **i** (insert). If the text buffer is empty (you are just starting to create the text), they act the same. If you already have something in the text buffer, Append will enter the text immediately following your current line. The new text will go in front of any old lines that followed the current line (e.g., old lines will be pushed down and renumbered). Insert causes entry of new text immediately preceding the current line. Thus the old current line and all subsequent lines will be pushed down and renumbered.

Example:

```

This is old line 1.
This is old line 2.
This line was appended by typing a when at old line 2.
This is old line 3.

```

```

This is old line 1.
This line was inserted by typing i when at old line 2.
This is old line 2.
This is old line 3.

```

When either of these commands is input, the prompt changes from the colon (Command mode) to an asterisk (\*), providing a continuous reminder that you are in the Text Entry mode. The line number of the line being entered is printed in the left margin. In Text Entry mode, keyboard input is put into the text buffer (in other words, the program will not interpret characters typed as commands). To allow editing of the text as it is being input without leaving Text Entry mode, several control keys are utilized.

<b>&lt;DEL&gt;</b>	Delete last character typed
<b>fA or fH</b>	Delete last character typed
<b>fW</b>	Delete last word typed
<b>fX</b>	Delete all text typed so far on this line
<b>fR</b>	Retype on my terminal the line currently being entered

If at any time while inputting your text you wish to return to Command mode to make corrections or formatting changes, type **fZ**. The system will return you to the Command mode and print out the number of your current line followed by the colon.

Example:

```

:append
1*This is being entered into the text buffer.
2*fZ
1:

```

## READING AND WRITING A FILE

XED allows you to edit text in an existing file as well as create a new file. To bring an existing file into the XED text buffer, type the command **r** (read). XED will reply with "Input File:". At this point, you type in the TENEX file name and extension. When the program has finished loading the file into the XED text buffer, it will tell you the number of lines in your buffer and print out your current line number.

Keep in mind that when "reading in a file" you are working with a copy, *not* the original (which is still in your directory). To make a new TENEX file you must explicitly execute a file writing command from XED (see below).

XED is not limited to only reading in one file. Repeated use of the **r** command will permit reading as many files as desired at any point within your text. Each command will effectively append the contents of the new file to your text buffer at whatever your current line is at the time you execute the command.

At any point during your editing session you may wish to save the current text buffer in a TENEX file. The **w** (write) command will prompt you with "Output File:" to which you respond with the file name you want. XED will produce a new version of that file. If you type **<ESC>** (Escape or Altmode key), XED will use the name of the last file you wrote. If you have not done a **w** (write) since starting XED, it will use the name of the original file read into the text buffer. It is wise during text entry to do a **w** after typing a page or two to insure that what you have written does not get lost during a computer crash. Write always leaves you at the current line so after you write a file all you need do is type **append** and continue entering text.

Example:

```
:read
Input file:Filename.Extension;1 [Old version] <CR>
389 lines
1:
.
.

:write
Output file: <ESC>Filename.Extension;2 [New version] <CR>
389 lines
389:
```

## ***DISPLAYING AND MOVING WITHIN THE TEXT BUFFER***

XED is line-oriented, i.e., commands are issued to the program on the basis of line numbers. All commands include either explicitly or implicitly a reference to the text line desired. The current line number is assumed if no new line number is given.

### **Changing the Current Line**

To set the current line number, simply type the desired line number. You may follow it immediately with the next command or with a Carriage Return (<CR>).

**Example:**

```
:16<CR>
:type2<CR>
16*This is line 16
17*This is line 17
:
:16type2<CR>
16*This is line 16
17*This is line 17
:
```

### **Other Line Setting Commands**

- \$** has the special meaning "go to the end of the text buffer."
- +** followed by a number (n) has the special meaning "n lines beyond the current line" and can be used wherever a line number might be used. If no n is given (e.g., +<CR>) n is assumed to be 1.
- followed by a number (n) has the special meaning "n lines before the current line" and can be used wherever a line number might be used. If no n is given (e.g., -<CR>), n=1 is assumed.
- #** will print out the value of the current line number.

**Example:**

```
:16<CR>
:type<CR>
16*This is line 16.
:-2type<CR>
14*This is line 14.
:+7type<CR>
21*This is line 21.
```

### Looking at Text

The following commands are available to display lines of text to you.

- / To examine the text of the current line type / (slash).
- t To examine the text of several lines type t followed by the number of lines to be typed out. The new current line is the last line typed.
- <LF> To examine the text of the next line after the current line type Line Feed (<LF>). Note this is the same as the sequence of commands +1/ or +/.
- t To examine the text of the line preceding the current line, type t. Note this is the same as the sequence of commands -1/ or -/.
- v To examine the next 20 lines of text, type v (view). Note this is the same as the command t20.
- l To type out the entire buffer (from beginning to end) type l (list). This command does not print line numbers. l is aborted with 1Q.
- , To examine a line in the context of surrounding lines, type , (comma) <CR>. This types out on the terminal the 5 lines preceding the current line, the current line, and the 5 lines following the current line. The current line stays the same.

A larger or smaller context may be viewed by typing , followed by the number of lines of context desired. This sets the number of lines of context for subsequent , commands.

### Examples:

```
:13/  
13* This is line 13.  
:20type2 <CR>  
20* This is line 20  
21* This is line 21  
<LF>  
22* This is line 22  
:
```

More examples:

```
:15,2<CR>
13*This is line 13
14*This is line 14
15*This is line 15
16*This is line 16
17*This is line 17
15:
```

Searching on Contents

You often don't know the location in the text buffer of a word, or phrase or other sequences of characters that you want to examine or edit. XED offers two commands for searching the text buffer for such character sequences (which we call "strings").

- f** The **f** (find) command first prompts for a text string (prints **Find:\*** at the left margin). Type in the sequence of characters you wish to find followed by a **<CR>**. XED will then locate the first occurrence of this string from the current line and will print the entire line. This now becomes your current line. If **f** reaches the bottom of the text buffer without finding an occurrence, it will continue on from the top of the buffer until the entire buffer has been scanned. Note that since XED is a line oriented-editor, **f** (find) will only locate occurrences in your text buffer that are completely contained on a single line. Normally the search is case-independent (i.e., it will locate the character sequence you specify, regardless of whether it is in upper or lower case or both). To find the next occurrence of the same string you need only type **f <CR>**.
- s** Search (**s**) is similar to **Find**, but will locate all occurrences of the string typed and print out the text line and number for each occurrence. The current line is moved to the last occurrence found.

**Example:**

```
:1 type 3
1*This is line 1.
2*This is line 2.
3*This is line 3.
:f find
Find:2<CR>
2*This is line 2.
:find
Find:*<CR>
12*This is line 12.
:search
Search:<CR>
```

12\*This is line 12.  
2\*This is line 2.  
2:

There are two variations of **f** and **s** that are useful.

- fB** If you type **fB** (Control B) either just before or just after **f** or **s**, the search will look for occurrences of your input string only at the beginning of a line.
- fE** If you type **fE** (Control E) either just before or just after **f** or **s**, the search will look for an exact case match with your input string.

**DELETING AND REPOSITIONING TEXT**

To erase one or more lines of text use the **k** (kill) command followed by the number of lines to be erased. To kill the current line only, just a **k <CR>** will suffice.

Example:

**:10kill12 <CR>** [This will kill 12 lines starting at line 10.]

Note that what is specified in this command is the starting line and the number of lines to be killed. If you wish to specify the range of the **k** command with a line number, type : after the **k**.

Example:

**:10kill:25<CR>** [This will kill 16 lines from line 10 through line 25.]

**Kill** can be used not only to delete material, but also to move lines of text within your file. This is possible because the text killed is not actually thrown away but instead is stored by XED in a special memory called the Text Dump.

The **j** (jam) command can then be used to append the text from the Text Dump after any specified line.

Example:

```
:3,2<CR>
1*This is line 1.
2*This is line 2.
3*This is line 3.
4*This is line 4.
5*This is line 5.
3:kill2<CR>
:1type5
1*This is line 1.
2*This is line 2.
3*This is line 5.
4*This is line 6.
5*This is line 7.
:1j2@3: [Notice lines 3 and 4 have deleted
and the remaining lines moved up
and renumbered]
```

```
:1type5<CR>
1*This is line 1.
2*This is line 3.
3*This is line 4.
4*This is line 2.
5*This is line 5.
:
```

[XED prints 2@3 to indicate that 2 lines have been jammed into the text buffer and the current line is now line 3.]

[Notice the contents of the Text Dump (lines 3 and 4) have been appended after line 1]

The **j** command does not erase the Text Dump, and it may be used as often as you like for appending multiple copies of the Text Dump. However, the Text Dump is temporary storage and holds only the text of the last kill command executed.

Note that the **j** command appends the Text Dump after the current line, while the **k** command operates on the current line (bringing up the next unkillled line to become the new current line). This means that if you accidentally kill some text lines by mistake, you must back up one line before jamming to correct your mistake.

Example:

```
:kill8<CR>
:-jam
```

This will return your text buffer to the state it was before you typed **k**.

To examine the contents of the Text Dump, you may type **p** (print Text Dump). This command does not affect the contents of text buffer or the Text Dump.

Example:

```
:kill3<CR>
:printdump
This is line 1.
This is line 2.
This is line 3.
```

## ***EXCHANGING TEXT***

The primary command for editing inside a line of text is the **x** (exchange) command. This command also makes it possible to easily correct errors that occur many times within a given text (for instance, a repeatedly misspelled word). To enlist the Exchange command, type an **x**. XED responds **Old:\***. You reply with the word or phrase you wish to replace followed by a **<CR>**. XED then prompts with **New:\***. You type the replacement desired, followed by another **<CR>**. The program will proceed to the first occurrence of the text you specified to be replaced (old), type the line with the replacement made, and ask you for confirmation. If you type a period (.) you are telling XED to make that exchange, and end the search. Confirming with **y** (yes) or **<CR>** tells XED to make that exchange and continue the search for the next occurrence. Typing an asterisk (\*) tells XED to make that exchange and all other such exchanges without further confirmation from you. All exchanges made will be printed out with line numbers.

If for some reason you do not like the exchange, you may reject the proposed exchanges. Typing **n** (no) means that the program should not make this exchange, but continue to search for other instances of the word or phrase to be replaced. Typing an **e** tells the program not to make the exchange and to stop looking for further instances.

<u>Confirmation</u>	<u>Action</u>
.	Do this exchange and return to Command mode.
<b>y</b> or <b>&lt;CR&gt;</b>	Do this exchange and find next occurrence.
*	Do this and all subsequent such exchanges and return to command mode.
<b>n</b>	Do not do this exchange and find next occurrence.
<b>e</b>	Do not do this exchange and return to Command mode.

The exchange command is done by XED in two steps: first the search for the old text you wish replaced, second the replacement with the new text. The search for the "old" text string is done exactly like an **f** (find) command. Thus the search is normally case-independent. The replacement, however, is exactly what you typed as the new text. So if you do an **x** command in all lower case and the **x** command finds a capitalized occurrence of an "old" word, it will try to replace it with an uncapitalized "new" word. You, of course, may reject that replacement.

## Example:

```
:15/  
15*Example of tje X command. Tje case of the replacement is fixed.  
:xchange  
Old:*tje  
New:*the  
15*Example of the X command. the case of the replacement is fixed.  
[Confirm] e  
Xchanged: 0
```

In this example "tje" appears twice on line 15, once with a capital "T." The replacement for both has a lower case "t." The exchange was rejected. You can avoid this problem by making the search an exact case match using **↑E** (Control E), just as in the **f** (find) command.

## Example:

```
:↑E (exact) xchange  
↑E Old:*tje  
New:*the  
15*Example of the X command. Tje case of the replacement is fixed.  
[Confirm].  
Xchanged: 1  
15:xchange  
Old:*tje  
New:*The  
15*Example of the X command. The case of the replacement is fixed.  
[Confirm].  
Xchanged: 1  
15:
```

The search can also be restricted to text at the beginning of a line by using the **↑B** (Control B), just as in the **f** command.

## EXITING

To exit from XED and make a new updated version of your text, type an **e** (exit) command; XED then asks you for a file name. At this point, you may wish to change the name of your file (type new name and **<CR>**) or keep the same name **<ESC>, <CR>**.

You may leave XED without writing a new file, by typing **q** (quit) or **fC** (Control C). You may want to quit a file if you have made a mistake and would rather begin again or if you read in the file only to search for information and have no need to update it.

To return from TENEX EXEC to XED in the state you left it, use the TENEX CONTINUE command. If, however, you enlist another program while in the TENEX EXEC (such as MSG, SNDMSG), CONTINUE will not return you to XED and you will lose your text buffer. You must then start up again fresh (i.e., type **xed**).

## SENDING A MESSAGE

One of the effective uses of XED is in preparing messages for the ARPANET. Create the body of the message in the text buffer of XED and, when it is ready to be sent, return to command mode and type % (percent). The system will ask you for the subject of your message. After you type in the subject (any text string followed by <CR>), the system responds "[Entering body, please do not type ahead - type **1K** to abort...]" When ready, the system will ask to whom you wish the message sent, using the prompt "To (? for help):" You type in the names you wish and terminate with a <CR>. Next you are prompted with "cc (? for help):". You type in the names of those to be sent copies (ended with <CR>). The system will next ask the question "Q,S,? or carriage return." The normal response is <CR>. The system will then print out the status of the message to each of the addressees and finally return you to XED in the state that you left it.

## Example:

```
:/list
This is an example of a message body that has been typed into
the text buffer of XED.
:% (SNDMSG)
Subject: * Test Message
† [Entering body, please do not type ahead - type 1K to abort...]

[Message body entered]

To(? for help):Smith, Jones
cc(? for help):Brown, Green
Q,S,? or Carriage Return: <CR>
Smith - ok
Jones - ok
Brown - ok
Green - ok
†† 2:
```

-----  
<sup>†</sup>At this point XED has transferred you to a different program (SNDMSG), which has slightly different conventions from XED for prompts, editing, and help. The reader is referred to SNDMSG documentation for more detail.

<sup>††</sup>You are now back in XED at the command level.

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